



# UNITED STATES PATENT AND TRADEMARK OFFICE

09

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,363	06/27/2003	Darshan B. Joshi	VRT0010C1US	8215
60429	7590	06/12/2006	EXAMINER	
CSA LLP 4807 SPICEWOOD SPRINGS RD. BLDG. 4, SUITE 201 AUSTIN, TX 78759			JOO, JOSHUA	
			ART UNIT	PAPER NUMBER
			2154	

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/609,363	<b>Applicant(s)</b> JOSHI ET AL.	
	<b>Examiner</b> Joshua Joo	<b>Art Unit</b> 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 25-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                                 |                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/18/2004</u> . | 6) <input type="checkbox"/> Other: _____                                                |

Art Unit: 2154

***Detailed Action***

1. Claims 25-46 are presented for examination.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted 11/18/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i) In the claims, it is unclear if the limitation of "the systems" is referring to "a set of systems" or "a plurality of systems" of claims 25 and 36.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2154

5. Claims 25-29, 31-40, 42-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mashayekhi et al, US Patent #6,922,791 (Mashayekhi hereinafter), in view of Stiffler, US Patent #5,958,070 (Stiffler hereinafter).

6. As per claims 25 and 36, Mashayekhi teaches substantially the invention as claimed including a method and an apparatus, Mashayekhi's teaching comprising:

identifying a set of systems of a plurality of systems (Col 8, lines 14-46. failing node and failover node of a plurality of nodes.), wherein

each system in the set of systems meets a requirement for hosting a first application of a plurality of applications (Col 8, lines 28-34, 50-66. Node may host application.), and

the systems form at least one cluster (Col 8, lines 28-57. Cluster.); and

when the set of systems is empty (Col 8, lines 28-34. No available resources.).

wherein the resource is one of a plurality of resources, and each resource is associated with at least one of the systems (Col 8, lines 14-34, 47-57. Resource and application on nodes.).

7. Mashayekhi teaches substantial features of the claimed including continually determining the availability of resources of nodes until a suitable failover is found (Col 8, lines 28-34), and assigning priorities to applications (Col 8, lines 58-66). However, Mashayekhi does not teach of when the set of systems is empty, using a respective priority for each of the applications for identifying a resource to free.

8. Stiffler teaches a similar invention of starting the applications of first computer on a second computer when the first computer fails, wherein priorities of applications are used for freeing resources (Col 10, lines 16-22).

Art Unit: 2154

9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Mashayekhi and Stiffler because both teachings deal with failing over applications of a first node to a second node. Furthermore, the teachings of Stiffler to use priorities of applications to free resources to run applications would improve the system of Mashayekhi by ensuring that high priority applications of a failed node may operate on another node when a suitable failover node cannot be found.

10. As per claims 26 and 37, Mashayekhi teaches the method of claim 25 wherein the identifying the resource further comprises using a respective capacity for each of the systems for identifying the resource (Col 8, lines 28-34. Identify if the weight is sufficiently low to indicate that the node has sufficient available resources to satisfy needed by failed node.).

11. As per claims 27 and 38, Mashayekhi does not teach the method of claim 25 further comprising: freeing the resource such that an associated system of the systems meets the requirements for hosting the first application.

12. Stiffler teaches of freeing the resource to run applications (Col 10, lines 16-22).

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Mashayekhi and Stiffler because the teachings of Stiffler to free resource to run applications would improve the system of Mashayekhi and Stiffler by ensuring that high priority applications of a failed node may operate on another node when a suitable failover node cannot be found.

Art Unit: 2154

14. As per claims 28 and 39, Mashayekhi and Stiffler taught the method of claim 27. Mashayekhi further teachings the method comprising: starting the first application on the associated system (Col 8, lines 28-34, 53-67. Application is failed over to another node.).

15. As per claims 29 and 40, Mashayekhi does not teach the method of claim 27 wherein the freeing the resource comprises stopping a second application that is using the resource, wherein the second application has a lower respective priority than a respective priority of the first application.

16. Stiffler teaches of stopping applications that is using the resources based on priority, and further teaches of running applications with high priority (Col 10, lines 16-22).

17. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Mashayekhi and Stiffler because the teachings of Stiffler to stop applications that is using resources based on priority and run applications with high priority would improve the system of Mashayekhi and Stiffler by ensuring that high priority applications of a failed node may operate on another node when a suitable failover node cannot be found.

18. As per claims 31 and 42, Mashayekhi teaches the method of claim 25 further comprising: determining that the first application is to be started (Claim 1; Col 7, line 11-18; Col 8, line 26-28, 62-65. Determine failure of node. Application is to be failed over.).

19. As per claims 32 and 43, Mashayekhi teaches the method of claim 31 wherein the determining that the first application is to be started comprises detecting that the first application failed (Claim 1; Col 7, line 11-18; Col 8, line 26-28, 62-65. Determine failure of node.).

20. As per claims 33 and 44, Mashayekhi does not teach the method of claim 31 wherein the determining that the first application is to be started comprises comparing a respective priority of the first application with each of a set of respective priorities for a set of the applications running on the systems, and determining that the first application is to be started when the respective priority of the first application is higher than one of the set of respective priorities for the set of applications running in the systems.

21. Stiffler teaches of determining the priority of a failing computer's application with the priority of another computer's applications; and determining what applications may run based on priority (Col 10, lines 16-22).

22. Mashayekhi and Stiffler do explicitly teach that the first application is to be started when the respective priority of the first application is higher than one of the set of respective priorities for the set of applications running in the systems. However, Stiffler does teach that only high priority applications may be run on the second computer. Therefore, this clearly implies that first application would be run on the second computer if first application has high priority than the second computer's applications. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Mashayekhi and Stiffler because Stiffler's teachings to determine the priority of a failing computer's application with the priority of another computer's applications; and determine what applications may run based on priority would improve the system of Mashayekhi and Stiffler by ensuring that high priority applications of a failed node may operate on another node when a suitable failover node cannot be found.

Art Unit: 2154

23. As per claims 34 and 45, Mashayekhi teaches the method of claim 25 wherein the identifying the set of systems comprises including a selected system in the set of systems when the selected system meets a prerequisite for the first application (Col 8, lines 28-34. Sufficient resources to run application. Col 8, lines 35-40. Determine in advance which applications are designated on which nodes, and what resources each node needs. Col 8, lines 50-57. Designate failover of node based on weight of the other nodes.).

24. As per claims 35 and 46, Mashayekhi teaches the method of claim 25 wherein the identifying the set of systems comprises including a selected system in the set of systems when the first application does not exceed a limit for the selected system (Col 8, lines 28-34. Sufficient resources to run application. Col 8, lines 35-40. Determine in advance which applications are designated on which nodes, and what resources each node needs. Col 8, lines 50-57. Designate failover of node based on weight of the other nodes.).

25. Claims 30 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mashayekhi and Stiffler, in view of Imes, US Publication #2004/0049579 (Imes hereinafter).

26. As per claims 30 and 41, Mashayekhi teaches the concept of moving applications based on the priority of applications (Col 8, lines 58-66). However, Mashayekhi does not teach the method of claim 27 wherein the freeing the resource comprises moving a second application that is using the resource to a second systems, wherein the second application has a lower respective priority than a respective priority of the first application.

27. Imes teaches of moving certain types of applications to another location to reduce processing demand on the resources (Paragraph 0066).



Art Unit: 2154

28. Since Mashayekhi teaches the importance of running applications with higher priority, it would have been then obvious to one of ordinary skill in the art at the time the invention was made combine the teachings of Imes with the teachings of Mashayekhi and Stiffler to move applications with lower priority to free resources because doing so would improve the system of Mashayekhi and Stiffler by improving response time and reduce both network and server load (Paragraph 0066).

### ***Conclusion***

29. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Thursday 8AM to 5PM and every other Friday.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on 571 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

32. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

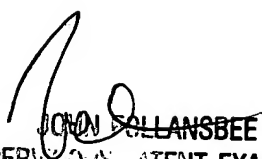
Application/Control Number: 10/609,363

Page 9

Art Unit: 2154

June 1, 2006

JJ

  
JOHN SALLANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100